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would constitute a most persuasive argument for the location of the new institute in Washington—within reach also of the Smithsonian Institution, the Bureau of Standards, the Bureau of Mines, the Department of Agriculture, the Geological Survey, the Medical Museum, the Carnegie Institution and the Library of Congress.

If any combination of circumstances can lead to united practical efforts toward common or related purposes on the part of those who seek a perfecting of the patent system, and those whose interests as scientists and educators extend beyond all current technical applications, it would seem past doubting that notable results must follow promptly.

In this connection attention is invited to the fact that the Patent Office is now admittedly unable to make an adequate application even of its present resources. The point here made is not that a surplus from the collection of fees is required to be turned over to the federal treasury, while the needs of the office for literature, laboratories, and men remain unprovided for. It is that the accumulation of patent grants has reached to such limits (about one and one quarter million grants), that, in the absence of adequate appropriations for the work of reclassification, the office is *unable to find the needles in its own haystack*. To quote from the current report of the Commissioner of Patents, Thomas Ewing:

In 1890 there were 189 members of the examining corps, of whom 30 were examiners. The assistant examiners (who make the searches) numbered 159. Each assistant had to report on 251 applications per year.

In 1916 the corps numbered 367, of whom 43 were examiners and 324 assistant examiners. Each assistant must report on 210 applications per year.

The extent of the field of search is fairly represented by the United States patents granted and the available foreign patents. In 1890 there were 443,000 United States patents and 635,000 available foreign patents, making a total of 1,078,000. At the close of 1916 there were more than 1,210,000 United States patents and 1,690,000 available foreign patents, totaling 2,900,000.

From these figures it will appear that the num-

ber of applications to be passed upon by each assistant has been reduced since 1890 by seventeen per cent. The number of available patents through which search must be made is now two hundred and forty per cent. of what it was in 1890. The force relative to the work which it has to do is therefore less than fifty per cent. to-day what it was in 1890.

In order that such a situation may be met at all it is absolutely essential that the best method of classification should be adopted, the classification completed and kept up to date. Yet when I laid all of these facts before Congress and pointed out, as indicated in an earlier section of this report, that at the present rate of reclassification now going on it could not be completed under twenty-five years I succeeded in obtaining no relief whatsoever. Every recommendation that I made during the past year has been refused.

If there could be established *in the national capital* an institute devoted to a study of the development of pure and applied science, is it not important that, even though incidentally to other great consequences, there might be created in both the legislative and administrative branches a new appreciation of the work, the responsibilities, and the opportunities, of an existing establishment, charged under the constitution, "to promote the progress of science and the useful arts"? Certainly those who are now engaged upon the performance of this duty are not all insensible of their limitations, nor of the services of stimulation and cooperation which could be rendered by disinterested and competent men of science.

BERT RUSSELL

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#### A CURE FOR SHOCK?

At a meeting of the Massachusetts Medical Society on June twelfth in Boston, Professor Walter B. Cannon, Shattuck lecturer in lieu of Dr. R. P. Strong (although both are now in France), detailed the probable physiology of traumatic and surgical shock, and suggested a possible cure. Dr. Cannon sees the essential primary condition in shock to be the vaso-motor trapping of too much of the body's blood by the splanchnic veins—capacious enough to contain all the life-blood of the or-

ganism. On one side are the myriad strongly constricted arterioles and, preventing the blood's escape, the capillaries of the liver intervening between the veins and the vena cava.

Dr. Cannon's plan to restore this essential blood to the systematic circulation, including that of the dying central nervous system, is to inject into the peritoneal cavity a properly adapted solution of some powerful vaso-constrictant, preferably pituitrin. The expectation is that the hormone will osmose from the outside of the omenta through the thin connective tissue coverings of the veins and, by forcing the constriction of the latter, impel a liter or more of necessary blood into the badly depressed vital organs.

Dr. Cannon is in France, with his assistant, putting this theory into humane use. The whole world will wish him the best of success.

G. V. N. D.

CAMBRIDGE

#### SCIENTIFIC BOOKS

*The Mosquitoes of North and Central America and the West Indies.* By L. O. HOWARD, H. G. DYAR and F. KNAB. (Carnegie Institution of Washington.) Vol. III. 1915. Vol. IV.. 1917.

The final part of this great work has at last been issued, amid general rejoicings from those interested in medical entomology, since it contains a full account of the malaria-organism carrier, *Anopheles*. The two parts containing the descriptive matter and synonymy total 1,064 pages, and the treatment is as full and exact as it could be made. Under each species is a full list of references to literature, followed by copies of the original description and the descriptions of the synonyms, if any. Then comes a detailed new description of the adult insect, and of the early stages when known, followed by a full list of the localities from which specimens have been received or recorded. Finally, there is a discussion of the synonymy and relationships. The yellow-fever mosquito alone takes over sixteen pages. The reader finds before him practically all that is known of the species treated, and the book will stand

as a model of exhaustive discussion and clear presentation.

Some difference of opinion will exist regarding the names of some of the species. The most troublesome case is that of the yellow-fever mosquito. This important insect has generally been known as *Stegomyia fasciata*, or simply as *Stegomyia*, which has almost become an English word. The name *fasciata* being preoccupied, the name *Stegomyia calopus* was substituted; but Dyar and Knab regarded *Stegomyia* as part of *Aedes*, and called the species *Aedes calopus*. As such it appears in the work reviewed, but a footnote is added, pointing out that *Culex argenteus*, proposed in 1787, is the oldest name. Hence we are to write *Aedes argenteus*. Mr. F. W. Edwards, of the British Museum, maintains *Stegomyia* as a genus, and according to this plan it will be *Stegomyia argentea* (Poiret). It is admitted that *Stegomyia* is very different from the type of *Aedes*, and evidently the question whether it should be generically separated is one concerning which there may be legitimate difference of opinion. Under these circumstances, in view of the general usage by medical authorities, it would seem better to recognize *Stegomyia*.

Another sort of difficulty arises from the mistakes of identification which have resulted from the poor descriptions of early authors. Thus the common species described at great length as *Culex territans* Walker, and so referred to in numerous works, is now said by Mr. Edwards, who examined Walker's type, to be actually quite distinct. It takes the name *Culex saxatilis*, and the real *territans* is what has gone as *Culex restuans* of Theobald. The result of this correction will be that when *Culex territans* is referred to, it will be difficult to tell which of the two species is intended, and confusion must follow. Walker's description was quite insufficient for determination, and under these circumstances it would seem proper to sink the name as unrecognizable. The two insects concerned will then stand as *C. saxatilis* and *C. restuans*.

The *Anopheles quadrimaculatus* of authors is also involved in difficulties. It is described